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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,963	02/28/2002	James B. Crews	304-27440-US	6754

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EXAMINER

METZMAIER, DANIEL S

ART UNIT PAPER NUMBER

1712

DATE MAILED: 12/20/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/086,963

Applicant(s)

CREWS, JAMES B.

Examiner

Daniel S. Metzmaier

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 April 2002 and 28 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other:

### DETAILED ACTION

Claims 1-23 are pending. The Formal Drawings filed April 3, 2002 have been entered as Paper No. 2. The Information Disclosure Statement filed February 28, 2002 has been entered as Paper No. 3.

The original application was filed with two claims numbered 20, the second claim 20 and originally filed claims 21 and 22 have been renumbered 21, 22, and 23 in accordance with 37 CFR 1.126. Applicants should note said change and employed the claims as renumbered for all future correspondence.

#### ***Drawings***

1. The corrected or substitute drawings were received on April 3, 2002. These drawings are acceptable for examination. Review by the draftperson will be held will be held in abeyance.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5 and 6 lack proper antecedent basis for salts. The scope of the claims 1-8 are indefinite because claim 1 provides for the addition of an acid and claims 5 and 6 define said acid to include salts. It is unclear if claim 1-4 and 7-8 also include the addition of salts. In claim 1, the claim should provide *ipso verba* basis for "the gel"

Claim 9 employs idiomatic English by the phrase, "an effective amount of at least one aminocarboxylic acid to directly on the polymer . . .".

In claims 14 and 20 it is unclear what is the intended scope of the claim. Said claims set forth "at least one polymer forming a gel" and within the same claim "at least one aminocarboxylic acid in an effective amount to directly break down the gel". It is unclear what form the aqueous fluid takes since the claims recite both the formation of a gel and an effective amount of an agent to break down said gel.

Applicants do not define the term cross-linking and/or cross linker in the claims. The specification indicates borate cross-linked guar gum. The scope of cross-linker or cross-linking ion is indefinite because it is unclear whether said limitation excludes organic cross-linkers or cross-linkers other than borates.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or  
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claims 1-2, 5-7, 9, 12, 14, 17, 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Lai et al, US 6,65,355. Lai et al discloses the addition of

aminocarboxylic acid salts to cross-linked polyacrylamide gels for the purpose of breaking said gels.

6. Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hall et al, US 5,054,552. Hall et al discloses (column 3, lines 8-27 and examples) discloses the addition of oxidizers, ferrous ammonium sulfate and EDTA to a non-crosslinked xanthan gum gel as a breaker. See Table 1, wherein the xanthan compositions is referred to as a gel. See Table 2 for the variation in temperatures from 100 to 140° F. The concentration of the EDTA is within the claimed range based on a 1% use of the catalyst which equates to about 1.1 kg/m<sup>3</sup>. The iron salt is added as a catalyst and not as a crosslinking agent. It is noted that although some of applicant's claims exclude the use of a crosslinker, applicant does not specifically define the scope of the cross-linkers to be excluded. The iron salts of the reference are added to the xanthan in the gel form for the purpose of breaking said gel. Lastly applicant's claims do not exclude the further ingredients in the Hall et al reference by the use of the transitional language "comprising".

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al, US 5,054,552. Hall et al discloses xanthan gels as set forth in the above rejection. Said characterization is herein incorporated by reference.

To the extent the concentrations for the EDTA differ from those exemplified in the Hall et al reference or the possible characterization of the ferrous salt as a crosslinker, Hall et al discloses (column 3, lines 59 et seq) concentration ranges for the breaker agents.

It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to vary the concentrations within the ranges taught in the Hall et al reference for the advantage of improved breaking of the xanthan gels.

Furthermore, Hall et al is silent regarding any cross-linking, there is no suggestion that the ferrous ions could cross-link the xanthan as employed in the Hall et al reference and the ferrous salt is characterized in Hall et al as a catalyst for the oxidation. One having ordinary skill in the art at the time of the invention would not have expected the ferrous salt and/or ion to function as a cross-linker, said cross-linker being excluded by the instant claims.

### **Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Colgrove et al., US 4,874,854, is of particular interest and sets forth the degradation of polysaccharide gelling /thickening agents by oxidation in combination with EDTA. Attention is also directed to Dawson et al, US 5,624,886, cited in applicant's IDS, which teaches oxidation of guar gels in the presence of EDTA.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (703) 308-0451. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on (703) 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
**Daniel S. Metzmaier**  
**Primary Examiner**  
**Art Unit 1712**

DSM  
December 11, 2002